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ABSTRACT

A study was conducted to: (1) determine if differences exist in socioeconomic background, academic ability, and curriculum with regard to basic communication skills achievement of high school seniors; and (2) gather baseline information about the level of achievement expected of seniors. The study compared basic communication skills scores obtained on the Comprehensive Test of Basic Skills (CTBS) by high school seniors enrolled in the vocational business education, college preparatory, and general education curricula, while considering attribute variables of socioeconomic background, academic ability, and gender. A sample of 90 Ohio public school classes (1,182 students) was used. Comparison groups were formed by randomized matching. Three instruments were employed in this study: (1) CTBS, yielding language mechanics and language expression scores as well as a combined score for language achievement; (2) the Test of Cognitive Skills (TCS), an improved measure of the skills important to success in the school setting and considered an ability test; and (3) a short questionnaire used to evaluate socioeconomic background. The study found that college preparatory students scored highest on the communication skills test, vocational business students ranked second, and general education students scored lowest. Females consistently outperformed males for all curricular groups. The study also found that somewhat less academically able students chose the vocational business curriculum. Controlling for academic ability, vocational business students performed better for their ability level than college preparatory students did for their academic ability. The measure of socioeconomic background did not support the research and could not be used. However, the study concluded that the actual scores of the academic and vocational students did not differ significantly enough to make a practical difference. (30 references) (KC)

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Vocies and Preppies

The Winner in

Written Communication Skills

Is . . .

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SECTION I

Introduction

Pressure exists on several fronts for accountability in education - especially in basic skills. Minimum levels of reading, writing, and mathematics survival skills are a right of every high school graduate, but they are rights that must be earned through reciprocity between students and teachers.

Employers and college admissions personnel voice the same concern. Candidates emerging from the high school ranks lack basic skills. One area of unanimous disquietude is the mastery of basic communication skills, including basic grammar and effective expression.

The "Why Can't Johnny Learn?" dilemma is ultimately the responsibility of the teacher, according to education's opponents. When put on the defensive, the teacher feels compelled to draw upon the entire repertoire of explanations for Johnny's poor performance including the educational system itself.

Marlin was not alone is his belief that education's most serious failing was its self-induced voluntary fragmentation that divided the enterprise against itself (Feldman, 1984). Internal affronts do not serve the educational system well. If, for instance, the teacher attacks teachers in the lower grades,

the educational entity loses. If the teacher takes opposition to curricular tracking, the scenario is repeated. But is avoidance of controversial issues interpreted as an admission of guilt?

Are basic skills best taught in academic classrooms organized to prepare America's young people? If so, does that arrangement exclude any design that fuses academics and vocational education, otherwise known as applied academics?

The relevancy of basic skills training to allow public school students to function as employees has been and will continue to be challenged. When students spend too much time in vocational classes, they may be handicapped to the point that they are excluded from taking academic subjects that foster basic skills development. Conversely, it is often argued that students do not realize the true meaning of learning until it is construed in a practical vein. In the introductory pages of the East Texas State University Guide for Coordinated Vocational-Academic Education Teacher-Coordinators (1984) it was stated, "If education is to be relevant to today's needs, it must include in its curriculum certain basic educational knowledges and skills plus preparation for entering and progressing in the world of work" (p. 1).

No students are exempt from expectations of academic excellence. Hotchkiss (1984) reminded us that vocational students are most likely to launch their preferred careers early. Their skills will be on display to the public prior to the college preparatory students' debut in the workplace. It

behooves vocational teachers to promote academic standards that equal those of their college preparatory counterparts because these students are representatives of the entire educational system. All levels of basic skills achievement must be elevated.

Statement of the Problem

The problems of this study were to (a) determine if differences exist in socioeconomic background, academic ability, and curriculum with regard to basic communication skills achievement; and to (b) gather baseline information with regard to the level of basic communication skills achievement to be expected from high school seniors.

The use of natural, uncontrived settings restricted the researcher in establishing cause and effect, but Kerlinger (1973) applauded the soundness and importance of ex post facto studies. To explain variance in communication skills achievement due to academic ability, socioeconomic background, or gender differences, these items were built into the research design, measured, and permitted to co-vary when appropriate.

The information contained in this study, a comparison of basic communication skills achievement of vocational business education, college preparatory, and general education students will assist (a) students in making curricular decisions; (b) school counselors in suggesting curricular routes; (c) teachers in recognizing the merits of all curricular tracks; (d) school personnel

in integrating curricula; (e) parents in assessing the choices made by their children; (f) college admissions personnel in assessing academic backgrounds of high school students; and (g) placement officers in examining the credentials of job applicants.

As early as 1985 (Delaware State Department of Public Instruction), over half the states were initiating major overhauls in basic skills content in all curricular paths. Now there is only a handful of states that have done nothing. Unfortunately, many decisions continue to be based upon speculation because not enough research has been conducted in the area of basic skills achievement.

Purposes of the Study

The purposes of this study were to (a) compare basic communication skills scores obtained on the Comprehensive Test of Basic Skills by high school seniors enrolled in the vocational business education, college preparatory, and general education curricula; and to (b) compare basic communication skills scores obtained on the Comprehensive Test of Basic Skills by high school seniors between curricula, while considering attribute variables of socioeconomic background, academic ability, and gender, when appropriate.

Objectives

The following objectives provided direction for the study:

1. To obtain demographic data on academic ability by using the Test of Cognitive Skills, and socioeconomic and gender backgrounds of students by using the socioeconomic questionnaire so that differences among curricular groups might be examined.
2. To compare students enrolled in vocational business education, college preparatory, and general curricula on indicators of basic communication skills achievement in language mechanics and language expression using experimental and statistical procedures.
3. To summarize the reported data and to draw conclusions and recommendations for the improvement of instruction and the development of the vocational business curriculum.
4. To disseminate the results to professionals and the public through meetings, professional literature, and news media.

Hypotheses

From an extensive review of related literature on comparisons of academic ability, socioeconomic background, gender, vocational business education, college preparatory and general education curricula, and basic communication skills achievement, four hypotheses were generated for this investigation. They are stated in the null form for statistical analysis:

H_o1: There will be no statistically significant difference between basic communication skills achievement of students pursuing a vocational business education curriculum and those pursuing a college preparatory or general education curriculum.

H_o2: There will be no statistically significant difference between basic communication skills achievement of students pursuing a vocational business education curriculum and those pursuing a college preparatory or general education curriculum when socioeconomic background is introduced as a covariate.

H_o3: There will be no statistically significant difference between basic communication skills achievement of students pursuing a vocational business education curriculum and those pursuing a college preparatory or general education curriculum when academic aptitude is introduced as a covariate.

H_o4: There will be no statistically significant difference between basic communication skills achievement of students pursuing a vocational business education curriculum and those pursuing a college preparatory or general education curriculum when gender is introduced as a covariate.

Basic Assumptions

The following primary assumptions governed this research:

1. That the predominant explanations for variance in basic communication skills achievement were built into the research design and measured;
2. That the tests were administered under similar classroom circumstances;
3. That the subjects were told to and did respond to all questions in a manner that was valid and reliable;
4. That all instruments used in this study were accurate measurement tools;
5. That the random sample was representative of the general population of Ohio high school seniors; and
6. That there were no systematic explanations for nonresponse errors.

SECTION II

Review of Related Literature and Research

Criticism of the public education system has continued since the time that parents were relieved of their responsibilities for in-home instruction in the three Rs. As society has changed over the centuries, so has the emphasis on vocational and academic subjects (Miller, 1985).

Most of the recent concern has been over the inability of high school graduates to master even the most basic skills in the areas of reading, writing, and mathematics. Crowe, Hettinger, Weber, and Johnson (1986) recognized the profound societal and corporate costs for inadequate basic skills preparation. Cost estimates are now in the billion dollar range.

Located in the remaining divisions of this literature review are research studies that are the underpinnings of the conceptual base upon which this investigation was conducted. This collection represents the nucleus of existing research comparing curricular tracks.

Socioeconomic Characteristics

Educational stratification by socioeconomic characteristics has been examined as an attribute variable in many studies. Findings from these

studies suggest that socioeconomic background is an antecedent to and a consequence of curriculum enrollment (Alexander, Cook, and McDill, 1977).

The socioeconomic status of academic students consistently ranks higher than that of general and vocational students. Typically, populations of students in vocational education rank in the bottom two quartiles of the socioeconomic indices, and college preparatory students dominate the top two quartiles.

These types of data allow researchers to draw profiles of vocational education students. A composite of vocational students portrays them as having lower self-images, finding school uninteresting, influenced by parents and less frequently by teachers and counselors in determining future plans, coming from blue-collar families, and working part time (Wisconsin State Department of Public Instruction, 1968; Bowles and Slocum, 1968; and Kay, 1971). An admonition in the interpretation of these data is that in vocational education the occupations are too diverse to make broad generalizations for all programming areas.

Academic Ability

The face-value assumption that college preparatory students are superior to vocational students and general education students in academic ability is well supported in research. Typically, vocational students enroll in their high school curriculum one standard deviation below college preparatory

students in academic ability and remain in the same relative position when exiting. Hilton (1971) observed that not only do nonacademic students have uniformly lower achievement, but also it is more uneven.

Heyns (1974) described educational stratification by ability level as being an optimum allocation of limited educational resources. College preparatory students are challenged to achieve their higher potential with advanced materials, exposure to equally endowed peers, positive reinforcement, and comfort in knowing they are, indeed, college material. Non-college preparatory students often receive the opposite form of treatment.

Gender

Gender inconsistently appears in the literature as being a significant background factor or no factor at all, depending on what dependent variable is being measured and the measurement procedure being used. Even college entrance test results have fluctuated in giving favor to males and then to females in various categories.

In an early study by Creech (1974) of over 3 million students, females slightly outperformed males in a battery of six tests. The same study included ability as a background variable. Once again, females performed slightly better than males.

The effects of specific types of coursework were examined by Gordon in 1985. She concluded that business and office courses increased the verbal test scores of female students.

Evaluations of educational attainment may be evidenced by numerous personological variables built into the investigation as controls. Hotchkiss (1984) indicated that these control variables, including gender, exercise much stronger influence on the cross-sectional differences among student test scores than do the school inputs. Therefore, the impact of gender composition in curricular tracks may appear to be far more compelling data to report than the dependent variable.

Vocational/Academic Comparisons on Miscellaneous Dimensions

Loadman and Rinderer (1986) examined students in the areas of mathematics and science using problems tied to practical applications in occupational categories. Once academic ability (aptitude) and socioeconomic background were entered as covariates, the vocational education students scored significantly higher than their general education and college preparatory counterparts.

Each curriculum has strengths in particular areas. Crowe et al. (1986) found that language arts skill demands were lower for vocational students than for college preparatory students. Vocational cooperative work sites required the lowest level of overall language skills and writing skills of all

groups. College preparatory students had the highest frequency of exposure to basic skills and the highest level of usage of those skills actually demonstrated.

Business Education Studies

A 1988 study by Ramey examined basic communication skills achievement of high school seniors in college preparatory, general education, and vocational business education programs. Vocational business education students significantly outperformed both their college preparatory and general education counterparts on raw communication skills achievement test scores. Once academic ability and socioeconomic background were permitted to covary, the differences were amplified.

Business education students' performance in writing skills was examined separately and was found to be superior to those of other vocational students in the Youth in Transition study (Davidson and Johnston, 1976) and the Massachusetts Assessment of Basic Skills (1979). Even with fragmented yet substantive information comparing vocational and academic education, researchers still have countless questions to answer. The immediate answers deal with curricula; the enduring answers will be determined through employment outcomes.

SECTION III

Methodology and Analysis of Data

The present investigation was an ex post facto study conducted in a field setting. The dependent variable was basic communication skills achievement, as measured by performance on the Comprehensive Test of Basic Skills, language sections. In the comparison of basic communication skills achievement, the primary independent variable was curriculum, with three levels - vocational business education, college preparatory, and general education. Academic ability, socioeconomic background, and gender were the attribute variables.

Description of Subjects

The target population was defined as high school seniors enrolled in vocational business education, college preparatory, or general education curricula Ohio's public schools. The accessible population for this study was limited by the desire of school administrators and teachers to participate.

A sample size of 70 intact classes was adequate. However, 100 classes were randomly selected to avoid undersampling. Five school administrators chose not to involve their students, and all cited the same reason - overtesting.

Therefore, the accessible population was 90 intact classes, or 1,182 usable cases of data.

Randomized matching was employed to form the comparison groups. Vocational business education classes were randomly identified by computer at the State of Ohio, Department of Education offices. Vocational business education units of analysis were easily delineated by classroom enrollment in a state-funded vocational business education program. American government and other senior social studies classes formed the comparison groups of college preparatory and general education students. Schools from which the government classes were selected either housed a vocational business education program or were channeling students into a business education program at a vocational school.

Outcome Measures

Three instruments were employed in this study: (1) the Comprehensive Test of Basic Skills (CTBS), yielding language mechanics and language expression scores as well as a combined score for language achievement; (2) the Test of Cognitive Skills (TCS), an improved measure of the skills important to success in the school setting and considered an ability test; and (3) a short questionnaire used to evaluate socioeconomic background.

Data Collection and Analysis

Data for this study were obtained through student responses on the three instruments mentioned previously. Both the CTBS and the TCS were modified by randomly selecting test items so that both could be administered in approximately one 40-minute time frame (one class period). Less than a week before the administration date, the tests were mailed to instructors. Students completed the tests between April 17-28, 1989.

In order to accomplish the four objectives and establish statistical precision, four procedures were deemed appropriate, using the Statistical Package for Social Sciences (SPSS) program:

1. Analysis of variance (ANOVA) procedures were performed to determine if the vocational business education and academic groups as well as the male and female groups differed significantly. The vocational business education grouping as reported in this study embraced two types of programs: (1) intensive (or in-school) business education and (2) cooperative (or coordinated work experience) business education.
2. Analysis of covariance (ANCOVA) procedures were performed, when appropriate, to determine the extent to which other covariates contributed to the variance in basic communication skills achievement.

3. A factorial analysis was performed to identify the effects of gender across curricula.

4. Significant and meaningful relationships (Glassnapp and Poggio, 1985; Schmidt, 1975) were identified through correlation coefficients. The threshold significance level for this study was set a priori at $p < .05$. The level of .05 has traditionally been considered an acceptable level for determining statistical significance.

The vast data generated from this study provided a fertile opportunity for post hoc analyses. However, the results reported in this report address the four hypotheses as presented in Chapter I. Each null hypothesis is restated prior to the discussion to establish the context of the analysis.

H_o1: There will be no statistically significant difference between basic communication skills achievement of students pursuing a vocational business education curriculum and those pursuing a college preparatory or general education curriculum.

An analysis of variance was performed to determine if curricula explained any differences in basic communication skills test scores. Significant differences between the means of the three major groups were identified at the .05 level. The null hypothesis was not supported. The findings indicated that college preparatory students' communication skills test scores were significantly higher than vocational business and general education students' scores. Vocational business students significantly outperformed general

education students on the communication skills tests. The results are summarized in Table 1.

Table 1

Summary Table: Mean Raw Score, Percent Correct, and Standard Deviation of Basic Communication Skills Achievement by Curriculum and by Program

Curriculum or Program	n	$\bar{X}$	Percent	SD
Academic				
College Preparatory	610	27.67	69	7.90
General	124	22.95	57	8.08
Vocational Business				
Intensive Business	317	26.25	66	6.64
Cooperative Business	131	26.91	67	5.87

H_o2: There will be no statistically significant difference between basic communication skills achievement of students pursuing a vocational business education curriculum and those pursuing a college preparatory or general education curriculum when socioeconomic background is introduced as a covariate.

Due to the lack of parallel regression lines, the test of significance for socioeconomic background as a covariate could not be reported. Barcikowski (1983) warned about the rigor of underlying assumptions for ANCOVA. He was particularly concerned that, "The covariate is not influenced by the treatments, such that the slope of the regression of y on x is the same for all

treatments (termed the 'homogeneity of regressions' or 'parallelism' assumption)." However, average socioeconomic background scores from the questionnaire are portrayed in Table 2 to form a profile of the students by curricula. Table 2 also allows for speculation concerning what the adjusted communication skills scores might have been if the socioeconomic background instrument were an appropriate measure.

Table 2

Summary Table: Mean Raw Scores and Standard Deviations of Socioeconomic Background

Curriculum or Program	n	$\bar{X}$	SD
Academic			
College Preparatory	610	12.61	2.04
General	124	11.57	1.68
Vocational Business			
Intensive Business	317	11.44	1.57
Cooperative Business	131	11.37	1.68

H_o3: There will be no statistically significant difference between basic communication skills achievement of students pursuing a vocational business education curriculum and those pursuing a college preparatory or general education curriculum when academic aptitude is introduced as a covariate.

Tests of H_o1 statistically revealed that groups of students enrolled in vocational business education, college preparatory, and general education curricula did differ significantly in basic communication skills achievement. There is no paucity of evidence in existing literature concerning the relationship between academic ability and curriculum enrollment. Therefore, when academic ability was measured in this study, the results emulated prior research. College preparatory students scored significantly higher on the Test of Cognitive Skills, vocational business students ranked in the middle, and general education students scored the lowest as a group. The comparisons are depicted in Table 3.

Table 3

Summary Table: Mean Raw Scores and Standard Deviations of Academic Ability

Curriculum or Program	n	$\bar{X}$	SD
Academic			
College Preparatory	610	13.55	4.09
General	124	10.41	3.67
Vocational Business			
Intensive Business	317	10.64	3.68
Cooperative Business	131	12.08	3.40

In the analysis of covariance (ANCOVA), the consequences of academic ability were removed from the effects of curricula. Observed mean scores for communication skills and adjusted mean scores using the covariate, academic ability, are presented in Table 4. Intensive business education and cooperative business education were consolidated into a comparison group cluster called "vocational business education" for the test of this hypothesis. Vocational business education, college preparatory, and general education students' scores were significantly different at the .05 level.

Table 4

Analysis of Covariance by Curriculum on Basic Communication Scores Employing Academic Ability as a Covariate

Source	df	MS	F	F Prob.
Regression	1	27061.97	926.45	.000
Error	1173	29.21		
Constant	1	14035.71	480.51	.000
College Preparatory	1	616.80	21.12	.000
General Education	1	626.59	21.45	.000
Vocational Business	1	938.71	32.14	.000

Academic ability scores produced upward adjustments in the values of basic communication skills achievement scores for the general education, intensive business, and cooperative business curricular groups. There was a downward adjustment for students in the college preparatory curriculum, as shown in Table 5.

Table 5

Summary Table: Observed Scores and Mean Adjusted Scores of Basic Communication Skills Achievement by Curriculum

(Adjusted for Academic Ability)

Curriculum or Program	n	Raw Score $\bar{X}$	Adjusted $\bar{X}$
Academic			
College Preparatory	610	27.67	25.33
General	124	22.95	24.52
Vocational Business			
Intensive Business	317	26.25	27.53
Cooperative Business	131	26.91	26.40

Vocational business education students' scores exceeded college preparatory and general education students' scores when academic ability was introduced as a covariate. The null hypothesis was not supported.

H_o4: There will be no statistically significant difference between basic communication skills achievement of students pursuing a vocational business education curriculum and those pursuing a college preparatory or general education curriculum when gender is introduced as a covariate.

Gender differences by curriculum on communication skills achievement were determined through a 2 X 4 analysis of variance (ANOVA). In all curricula, females' test scores consistently exceeded males' test scores. The mean communication skills test scores are presented in Table 5.

Table 5

2 X 4 Analysis of Variance by Curriculum on Basic Communication Skills Scores Employing Gender as a Covariate

Curriculum or Program	n	$\bar{X}$	SD
College Preparatory			
Males	292	25.82	8.22
Females	318	29.36	7.21
General			
Males	57	20.11	7.04
Females	67	24.94	8.00
Intensive Business			
Males	32	26.22	6.87
Females	285	26.25	6.63
Cooperative Business			
Males	12	23.50	6.74
Females	119	27.34	5.65

Statistically significant differences ($p < .05$) in communication skills were reported for all curricular groupings when gender was used as a covariate. The proportion of females in the curricular groupings is analogous to the mean scores in communication skills. Based upon the significant differences generated by the addition of gender into the analysis, the null hypothesis was not supported. Table 6 summarizes the results of the analysis of covariance (ANCOVA) using gender as an attribute variable.

Table 6

Analysis of Covariance by Curriculum on Basic Communication Scores Employing Gender as a Covariate

Source	df	MS	F	F Prob.
Constant	1	523872.33	10028.85	.000
Error	1174	52.24		
College Preparatory	1	252.75	4.84	.028
General Education	1	1411.76	27.02	.000
Vocational Business	1	418.39	8.01	.005

Additional Findings

A correlation matrix was constructed to further explain the relationships among variables. The relationship between communication skills and aptitude was $\underline{r} = .6137$, which Glassnapp and Poggio (1985) classified as a moderate type of relationship. On the other hand, the relationship between communication skills and socioeconomic background was $\underline{r} = .1441$; the relationship between communication skills and gender was .1664. Both coefficients are considered low. In the comparison of variables, the level of significance was set at $p < .001$.

Summary

This chapter presented the data resulting from three statistical procedures performed to accept or reject the four hypotheses presented in this investigation. The analysis of variance (ANOVA) of curricular groups revealed significant differences with college preparatory students scoring highest on the communication skills test, vocational business students ranking second, and general education students scoring lowest.

The analysis of covariance (ANCOVA) could not be performed using socioeconomic background as a covariate. The academic ability covariate, however, generated significant differences between college preparatory, vocational business, and general education students' communication skills test

scores. The adjusted scores for both groups of vocational business students exceeded the adjusted scores for college preparatory and general education students.

In the 2 X 4 analysis of variance (ANOVA), gender was considered along with levels of curricula. Females consistently outperformed males in communication skills test scores for all curricular groups. Although college preparatory continued to rank first, vocational business second, and general education third, it should be noted that intensive vocational business education male students outperformed male students from all other curricular groups.

From the four hypotheses examined, the first, third, and fourth were not supported; the second hypothesis could not be tested due to the absence of parallel regression lines. Chapter V will summarize the entire study and will discuss conclusions and recommendations resulting from these analyses.

SECTION IV

Summary, Conclusions, and Recommendations

Summary

An inexhaustible number of variables may be built into educational research, and yet one minute attribute variable may influence the dependent variable in monumental proportions. Researchers try to remove the effects of the strongest independent variables and take the calculated risk that they measure the correct ones. Despite the best efforts to randomize and oversample in this study, the uncertainty remains that the results could be different for any number of reasons.

Academic ability is an attribute variable that is well supported in the literature (Alexander, Cook, and McDill, 1977; Davidson and Johnson, 1976; Hilton, 1971; Lotto, 1981, 1983; and Rosenbaum, 1975, 1976) as having an impact on learning as well as curricular choice. The effects of academic ability were observed and found to be of significance in this study.

Socioeconomic background, likewise, is a determinant of level of learning and curricular choice. Unfortunately, the socioeconomic background

instrument developed by Kohen (1973), although expedient and unobtrusive, was not appropriate for this study.

The addition of gender as a covariate provided very interesting data in this investigation. The related literature (Creech, 1974; Echternacht, 1975; Evans and Galloway, 1973; and Gordon, 1985) contained an assortment of reports from strong to negligible impact. In communication skills achievement, females do exhibit a proclivity toward language mechanics and language expression both in the present study and in prior research.

Conclusions

Although the design for this investigation was strong, the absence of socioeconomic background as a covariate minimized the opportunity to translate meaningful interrelationships among covariates of socioeconomic background, academic ability, and gender with curricula. Socioeconomic background can mediate academic ability due to access to prenatal care, risk of congenital abnormality, brain damage, bonding, and access to mentally stimulating persons and things before children reach school age.

Once diagnosed as having low academic ability, students are often denied positive reinforcement and challenging situations within the school structure. It is within the realm of possibility that not only achievement but also IQ is affected by track placement, as Rosenbaum (1975) demonstrated with longitudinal data.

According to this study, somewhat less academically able students opted for the vocational business curriculum. Removing the effects of this deficit in background from the communication skills achievement raw scores exposed a group of students who performed beyond their capabilities. These findings support the research of Loadman and Rinderer (1986) who discovered that the means scores of vocational students were superior to academic students when adjusted for academic ability.

The array of socioeconomic background scores, however inappropriate they might have been, still conformed to prior research stating that college preparatory students enjoy a higher station than students in other curricular tracks. In the present investigation, cooperative vocational business education students were the least likely to come from a rich socioeconomic background, thus offering one explanation for why they choose to obtain employment before graduation.

This research supported the assumption that students with high academic ability select or are channeled into the college preparatory curriculum. There is lingering concern over how many high-ability students are urged to select the college preparatory curriculum in lieu of their preference toward another curriculum. The ability measure becomes a powerful tool to persuade or dissuade students.

The relationships among levels of the variable, curriculum, remained consistent with the literature favoring college preparatory students when

considered alone as the main independent variable. When curriculum was considered in conjunction with the attribute variable, academic ability, the balance shifted in favor of the vocational business education students on the basic communication skills test. Introducing gender as an attribute variable produced one irregularity in which male intensive vocational business education students' mean score was higher than any other curricular group. Because only 32 subjects were in this cell for the factorial analysis, the probability of sampling error was increased.

Not to be dismissed is the issue of statistical significance versus practical significance. The college preparatory students' observed mean communication skills test score was 27.66, and the vocational business education students' observed mean score was 26.58, or slightly more than one additional test question missed. The general education students demonstrated statistical and practical significant differences of 3.3 to 4.7 additional test questions missed than the other groups. Despite shortcomings in both socioeconomic background and academic ability, vocational business students met and surpassed levels of performance set by college preparatory students.

Gender differences, however obvious, should be interpreted with caution. It is convenient to reach the conclusion that the vocational business education classes were disproportionately comprised of females (90 percent or greater), and females excel in communication skills achievement. However, a reference to the previously stated Hotchkiss (1984) stance is important at this juncture.

His concern was that gender is a powerful covariate that eclipses the effects of school inputs on test scores and compels researchers to report gender differences rather than the main effects of the research.

One of the problems of this study was to determine if differences existed in all the variables with regard to basic communication skills achievement. The results of the analysis were documented in this report.

The second problem was to gather baseline information with regard to the level of basic communication skills achievement to be expected of high school seniors. The basic communication skills test scores, as revealed in this study, indicated that students from all curricular tracks lack language mechanics and language expression skills. Only 69 percent of the 40 multiple-choice questions were answered correctly by the highest-scoring group, the college preparatory students. Vocational business students answered an average of 67 percent correct; general education students averaged 57 percent.

The mediocre homogeneity of performance on the basic communication skills test offers little optimism for locating a model curriculum that elevates basic communication skills achievement to an acceptable level. Despite some convincing findings, no victor should be declared in this study so as to put an end to wasted energy in fighting the battle. Instead, all teachers and students must work harmoniously to raise the language mechanics and language expression skills for everyone.

Recommendations

Based upon the findings of this research, the following topics are worthy of further pursuit:

1. That research be conducted to disclose methods of eaching that improve language mechanics and language expression skills.
2. That this study be replicated using a proven measure of socioeconomic background so that interrelationships among variables can be fully examined.
3. That an investigation using the pretest-posttest control group design be conducted to determine if vocational business education students improved during their enrollment in the program.
4. That this study be replicated comparing students in other states.
5. That further research be conducted to examine the impact of specific vocational education programs on basic skills achievement.
6. That the data provided in this study be used to promote a mutuality of effort toward better student performance in basic communication skills.

The ultimate benefit to be realized from this study is the replacement of controversy with cooperation.

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